

6HE5

Beam Power Tube

Duodecar Type

For Vertical-Deflection-Amplifier

Circuits in TV Receivers

ELECTRICAL CHARACTERISTICS – Bogey Values

Heater Voltage, ac or dc . . . E_h 6.3 V

Heater Current I_h 0.8 A

Direct Interelectrode

Capacitances:^a

Grid No.1 to plate c_{g1-p} 0.54 pF

Input: G1 to (K,G3,G2,H) c_i 9.5 pF

Output: P to (K,G3,G2,H) c_o 7.0 pF

For the following characteristics, see Conditions below:

Plate Resistance (approx.) . . . r_p — 50000 Ω

Transconductance g_m — 4100 μmho

DC Plate Current I_b 180^b 43 mA

DC Grid-No.2 Current I_{c2} 20^b 3.5 mA

Cutoff DC Grid-No.1 Voltage for $I_b = 100 \mu\text{A}$ $E_{c1(co)}$ — -50 V

Conditions:

Heater Voltage E_h 6.3 6.3 V

DC Plate Voltage E_b 60 250 V

DC Grid-No.2 Voltage E_{c2} 250 250 V

DC Grid-No.1 Voltage E_{c1} 0^c -20 V

MECHANICAL CHARACTERISTICS

Maximum Overall Length 2.875in (73.02 mm)

Maximum Seated Length 2.500in (63.5 mm)

Maximum Diameter 1.188in (30.1 mm)

Dimensional Outline JEDEC 9-60

Envelope JEDEC T9

Base Small-Button Duodecar 12-Pin (JEDEC E12-70)

Terminal Diagram JEDEC 12EY

Type of Cathode Coated Unipotential

Operating Position Any

MAXIMUM RATINGS – Design-Maximum Values^d

For operation as a Vertical-Deflection-Amplifier Tube
in a 525-line, 30-frame system

DC Plate Supply Voltage E_{bb} 350 V

Peak Positive-Pulse Plate Voltage^e. e_{bm} 2500 V



Electronic
Components

DATA
2-69

6HE5

DC Grid-No.2 (Screen-Grid) Voltage .	E_{c2}	300	V
Heater-Cathode Voltage:			
Peak	e_{hkm}	± 200	V
Average	E_{hk}	100	V
Heater Voltage, ac or dc	E_h	5.7 to 6.9	V
Cathode Current:			
Peak	i_{km}	280	mA
Average	$I_{k(av)}$	75	mA
Grid-No.2 Input	P_{g2}	2.75	W
Plate Dissipation ^f	P_b	12	W
Envelope Temperature (at hottest point on envelope surface.)	T_E	200	°C

MAXIMUM CIRCUIT VALUES

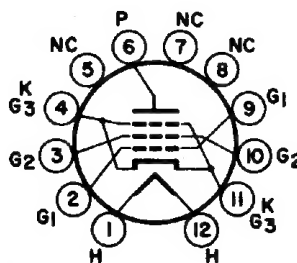
Grid-No.1-Circuit Resistance

With fixed bias	R_{g1}	1.0	MΩ
With cathode bias	R_{g1}	2.2	MΩ

- ^a Measured without external shield in accordance with the current issue of EIA Standard RS-191.
- ^b This value can be measured by a method involving a recurrent waveform such that the Maximum Ratings of the tube will not be exceeded.
- ^c Applied for two seconds maximum so as not to damage tube.
- ^d Unless otherwise specified, as defined in the current issue of EIA Standard RS-239.
- ^e This rating is applicable when the duration of the voltage pulse does not exceed 15% of one vertical scanning cycle. In a 525-line, 30-frame system, 15% of one vertical scanning cycle is 2.5 ms.
- ^f An adequate bias resistor or other means is required to protect the tube in the absence of excitation.

TERMINAL DIAGRAM - Bottom View

- Pin 1 - Heater
- Pin 2 - Grid No.1
- Pin 3 - Grid No.2
- Pin 4 - Grid No.3, Cathode
- Pin 5 - No Connection
- Pin 6 - Plate
- Pin 7 - No Connection
- Pin 8 - No Connection
- Pin 9 - Grid No.1
- Pin 10 - Grid No.2
- Pin 11 - Grid No.3, Cathode
- Pin 12 - Heater



JEDEC 12EY